

The gsmSCF is arranged to control a call in the gsmSSF of the visited network, based on a request for instructions transmitted from the gsmSSF to the gsmSCF.

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The MSC is connected to a base station subsystem (BSS) which is radio-connected to the MS.

According to the preferred embodiment, an IN service trader

10 function (STF) is added to the home network of the MS. However, alternatively, the STF may be located in the visited network or generally on the signaling link between the visited network and the home network.

15 The STF may be a function provided in the HLR or may be arranged as a separate network element connected to the HLR. The STF may also communicate with the HLR via a service controller, e.g. a CAMEL Service Environment (CSE) in the GSM system, or may be implemented in association
20 with such a service controller. The STF stores and updates locations of distributed IN services. Furthermore, an information about networks and service control points (SCPs) to which IN services have been downloaded may be contained in the STF. Additionally, the STF may provide a
25 function for searching an IN service based on other criteria such as a subscriber language of the MS.

According to a first example of the preferred embodiment, the subscriber's service sets are checked by the HLR, when

30 a location update procedure is performed between the HLR and the VLR of the visited network, or at least when the visited network has changed since the last location update.

Based on the IN service information returned from the STF, the HLR updates its service trigger information such as the CSI in the subscriber data, and supplies it to the VLR of the visited network. Thereby, the MSC of the visited

5 network may obtain the corresponding updated subscriber service trigger information from its VLR, such that a required IN service can be executed at the visited network.

The IN service may have been already downloaded to the visited network at an earlier time. In this case, the

10 service is downloaded and configured to the service controller, e.g. CSE, of the visited network. Several possibilities exist for the implementation: manual operator service management actions may be provided, the home

15 network may calculate an amount of roamers or an amount of triggerings from a particular visited network and may initiate downloading actions to transfer the service logic from the service controller of the home network to a service controller of the visited network. Then, the STF is updated and starts providing addresses of the new service

20 controller to e.g. the HLRs.

The IN service may as well be downloaded in the course of a triggering or location update. This can be done e.g. during location updating, as long as it is fast enough. Then, the

25 address to the downloaded IN service is provided.

Alternatively, if downloading cannot be performed fast enough, the service logic is downloaded by the home network after a location update, and the triggers are then separately updated at a later stage in the HLR and the

30 visited network by the home network.

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Fig. 2 shows a transmission and processing diagram of the corresponding signaling performed between the VLR, HLR and STF according to the first example of the preferred embodiment.

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When a location update request is received by the HLR from the VLR, the HLR transmits an IN service request to the STF in order to initiate a check of the respective IN services triggered for the corresponding MS. The IN service request may comprise one or a plurality of service identifiers each specifying predetermined attributes describing a respective IN service. These attributes may comprise e.g. a user language, a visited network identity, an actual time and date, a user identity, a service price, a service price limit, and the like. The STF may also determine the service address based on the number of references given per service and service controller. Thereby, the load can be distributed in an even manner among alternative service controllers. The CSE could be internally distributed so as to comprise several entities or nodes to which the service logic has been distributed. However, from the MSC's point of view, it can be observed as a single entity.

25 The STF performs an IN service check and returns a location or identification information concerning IN services suitable for the present location of the MS to the HLR. In particular, the information may concern the corresponding nearest IN services and may at least contain the corresponding gsmSCF address and service key.

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Based on the received IN service information, the HLR updates its trigger information, i.e. the CSI in the